

## PHOTOLYTIC ARTIFICIAL LUNG

### Abstract

The present invention is directed to a photolytic artificial lung. The photolytic  
5 artificial lung converts water to oxygen for blood absorption, regulates pH, the  
removes carbon dioxide, and co-produces electrical power is disclosed. The  
photolytic artificial lung includes a photolytic cell where all of the chemical  
reactions occur. The photolytic cell disclosed herein can also be used to direct  
chemical reactions in organs other than the lung. Also disclosed herein is a  
10 gas sorption device for removing carbon dioxide from the system by chemical  
sorption.

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